

Corynespora chinensis sp. nov. from Hainan, China

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ABSTRACT—A new anamorphic fungus, *Corynespora chinensis*, is described and illustrated from a specimen collected on dead branches of an unidentified broadleaf tree in Hainan, China. The fungus is characterized by its terminal, monotretic conidiogenous cells with catenate, obclavate, pale brown, smooth, 1–5-distoseptate conidia.

KEY WORDS—*Corynesporascaceae*, *Dothideomycetes*, *Ascomycota*, hyphomycetes, taxonomy

Introduction

Corynespora was established by Güssow (1905) with type species *C. mazei* Güssow. Wei (1950), who considered *C. mazei* a synonym of the earlier name *Helminthosporium cassiicola* Berk. & M.A. Curtis, recombined it as *C. cassiicola* (Berk. & M.A. Curtis) C.T. Wei. *Corynespora* has been defined as having integrated, terminal, monotretic, determinate or percurrently extending conidiogenous cells on distinct conidiophores, and acrogenous, solitary or catenate, distoseptate phragmoconidia (Wei 1950, Ellis 1971, Seifert & al. 2011, Xu & al. 2020). Under this generic concept, more than 200 epithets for *Corynespora* are listed in Index Fungorum (2021), of which 137 are currently accepted (Siboe & al. 1999, McKenzie 2010, Hyde & al. 2020, Xu & al. 2020). Most species are reported either from living leaves or from rotten wood and

dead bark of various plant species. Only 14 species are represented by DNA sequences in GenBank.

Based on cultural studies, *Corynespora* was thought to represent the anamorph of *Corynesporasca caryotae* Sivan. [= *Corynespora calicioidea* (Berk. & Broome) M.B. Ellis] in *Corynesporascaceae* Sivan. (*Pleosporales*, *Dothideomycetes*) (Sivanesan 1996). Subsequently, Voglmayr & Jaklitsch (2017) assigned *Corynespora cassiicola* and *C. smithii* to *Corynesporascaceae* in their phylogenetic analysis and revealed the polyphyletic nature of *Corynespora* based on phylogenetic analyses and morphology.

China is considered an important and highly diverse world country (Myers & al. 2000). Its forest ecosystems have a high degree of fungal diversity, and many anamorphic fungi have been discovered there (e.g., Wu & Zhuang 2005; Ma & al. 2014, 2016, 2021; Xu & al. 2017, 2019, 2021; Zhang 2018). During our ongoing mycological survey in southern China, we collected on dead branches an interesting hyphomycete morphologically similar to *Corynespora*. The fungus, remarkably different from previously described *Corynespora* taxa, is proposed here as a new species, *C. chinensis*.

Materials & methods

Fieldwork was conducted at the end of the rainy period in the forests of Baomeiling Nature Reserve, Hainan Province, China. Samples of dead branches were processed and examined following Ma & al. (2011). Conidia and conidiophores were measured and photographed using an Olympus BX 51 microscope under a 100× (oil immersion) objective at the same background and scale. Adobe Photoshop 7.0 was used to process images and assemble photographic plates. Despite several attempts, single spore isolations did not grow on PDA at 25 °C, and therefore our description is based on morphological data. The specimen was deposited in the Herbarium of Shandong Agricultural University, Plant Pathology, Taian, Shandong, China (HSAUP).

Taxonomy

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FIG. 1

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Differs from *Corynespora acaciae* by its solitary or catenate, longer conidia; and from *C. vismiae* by its smaller conidia with 1–5 distosepta.

TYPE: China, Hainan Province, Changjiang city, Baomeiling Nature Reserve, on dead branches of an unidentified broadleaf tree, 9 December 2009, J. Ma (**Holotype**, HSAUP H5272).

ETYMOLOGY: refers to the country in which the fungus was collected.

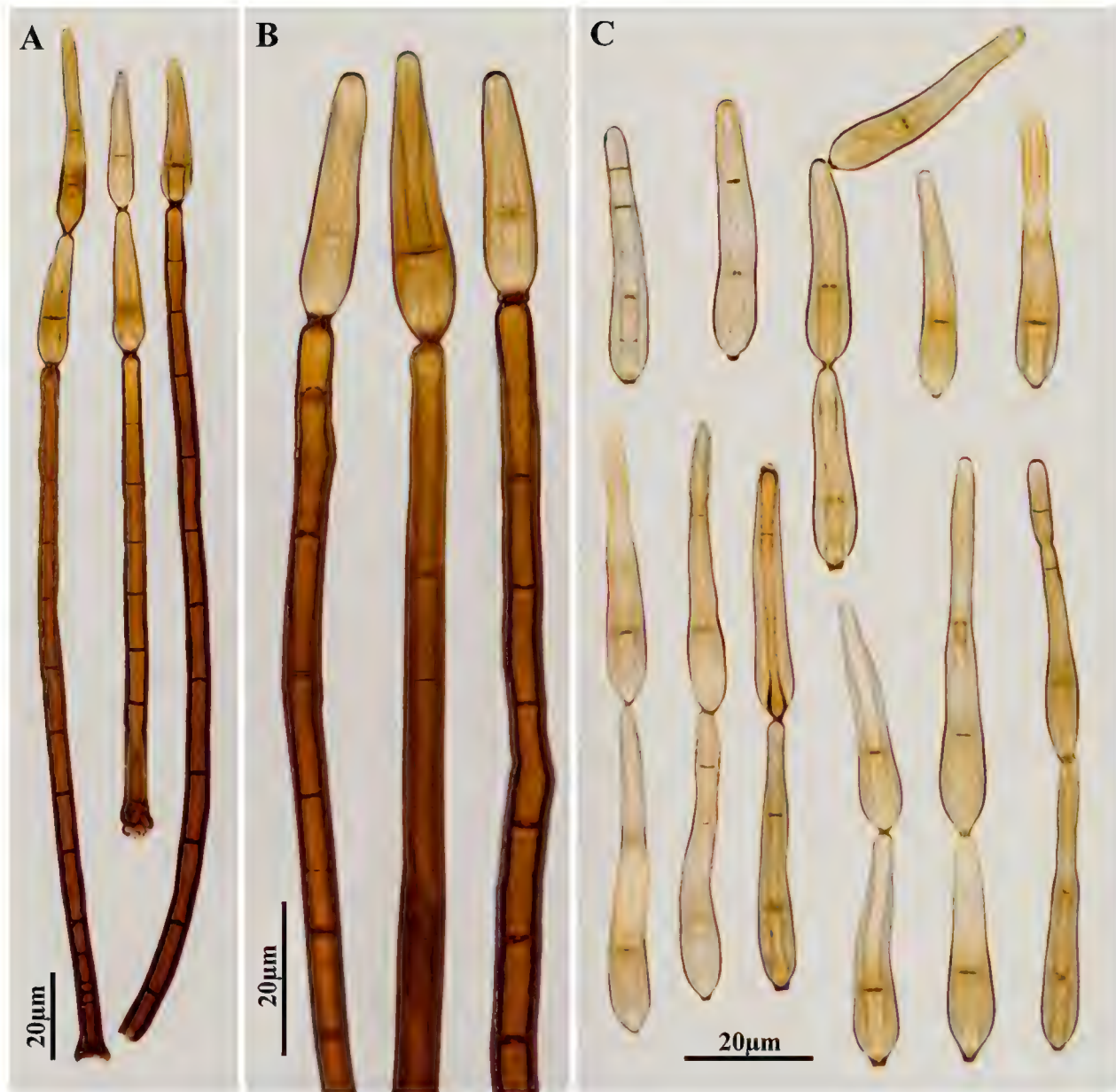


FIG. 1. *Corynespora chinensis* (holotype, HSAUP H5272).
A, B. Conidiophores, conidiogenous cells, and conidia; C. Conidia.

COLONIES on dead branches effuse, brown, hairy. Mycelium superficial and immersed in the substratum composed of branched, septate, pale brown, smooth-walled hyphae. CONIDIOPHORES macronematous, mononematous, unbranched, erect, straight or flexuous, cylindrical, 5–13-septate, smooth, brown to dark brown, thick-walled, $110\text{--}290 \times 4.5\text{--}7 \mu\text{m}$. CONIDIOGENOUS CELLS monotretic, integrated, terminal, determinate, cylindrical, smooth, brown, $8.5\text{--}30 \times 3.5\text{--}4.5 \mu\text{m}$. Conidial secession schizolytic. CONIDIA acrogenous, dry, in unbranched acropetal chains, obclavate, smooth, pale brown, 1–5-distoseptate, $31\text{--}61 \times 5\text{--}7.5 \mu\text{m}$, rounded at the apex, and truncate at the base with a protuberant dark brown hilum, 1–2 µm diam.

COMMENTS – Among *Corynespora* species, *C. chinensis* is most similar to *C. acaciae* H.J. Swart and *C. vismiae* M.B. Ellis in conidial shape, but *C. acaciae* differs by its solitary and shorter conidia ($16\text{--}30 \times 6\text{--}8 \mu\text{m}$; Swart 1985), and *C. vismiae* differs by its larger conidia ($55\text{--}107 \times 6\text{--}9 \mu\text{m}$, 4-distoseptate; Ellis 1963).

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